B2 CONCLUD

Amend claim 9 as follows:

--9. (Amended) A recombinant construct according to claim 1, wherein the nucleic acid sequence is linked operably with nucleotides enabling expression and secretion of the apopholasin in a cellular host.

Amend claim 10 as follows:

--10. (Amended) DNA or RNA according to claim 1.

Amend claim 13 as follows:

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--13. (Amended) The apopholasin according to claim 11 when expressed by recombinant DNA or RNA according to claim 10.

Amend claim 15 as follows:

B4

--15. (Amended) A cell, plasmid, virus or live organism having incorporated expressibly therein a sequence according to claim 1, whereby it is capable of producing an apoprotein.

Amend claim 16 as follows:

--16. (Amended) A vector comprising a sequence according to claim 1.

Amend claim 18 as follows:

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--18. (Amended) A bioluminescent oxidative indicator protein (BOIP), comprising an apophotoprotein according to claim 11 in association with a luciferin.

Amend claim 23 as follows:

B6

--23. (Amended) A method according to claim 21, wherein said BOIP is selected from native or chemically-or

genetically-modified BOIP or a 'rainbow protein' based on such a BOIP.

Amend claim 24 as follows:

--24. (Amended) A method according to claim 21, wherein said BOIP includes a signal peptide, targeting it to a pre-determined extra-or intra-cellular site.

Amend claim 25 as follows:

--25. (Amended) A method according to claim 21, comprising incubating a test sample with a cell, plasmid, virus or live organism having incorporated expressibly therein:

(a) a sequence that encodes the apophotoprotein of pholasin (alternatively, 'apopholasin');

(b) a sequence substantially homologous to or that hybridises to sequence (a) under stringent conditions; or

(c) a sequence substantially homologous to or that hybridises under stringent conditions to the sequence (a) or (b) but for the degeneracy of the genetic code; or

(d) an oligonucleotide specific for any of the sequences (a), (b) or (c) PROVIDED THAT such homologous sequences according to (b) or (c) encode a protein capable of binding to luciferin.

Amend claim 26 as follows:

--26. (Amended) A method according to claim 21, wherein light emission takes place in the absence of a luciferase.

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Amend claim 27 as follows:

--27. (Amended) The use of a sequence or a protein according to claim 1 in the detection, diagnosis or measurement of oxygen or a metabolite thereof.

Amend claim 29 as follows:

--29. (Amended) A method for obtaining a substantially homologous source of apopholasin, which method comprises culturing cells having incorporated expressibly therein a polynucleotide encoding apopholasin as defined in claim 1, and thereafter recovering the cultured cells.

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Amend claim 30 as follows:

--30. (Amended) A method, use or kit according to claim 20, substantially as hereinbefore described with particular reference to the Examples.--

R E M A R K S

The above changes in the claims merely place this national phase application in the same condition as it was during Chapter II of the international phase, with the multiple dependencies being removed. Following entry of this amendment by substitution of the pages, only claims 1-30 remain pending in this application.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE".